FRANZ HOPPER

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EXPERIENCE

Software Engineer, *Apple*, Pittsburgh, PA May 2023 - Present

- Help design and improve iOS kernel drivers for new iPhone hardware, focusing on memory use, power efficiency, and device support.
- Work with hardware, firmware, and QA teams to identify and fix driver issues while meeting Apple's strict coding and quality standards.
- Write and test low-level software in C/C++ and Objective-C to meet real-time speed requirements and small memory limits.
- Create clear design documents, API notes, and review materials for senior engineers.
- Use experience in embedded systems and hardware-software integration to deliver features included in several major iOS releases.

Embedded Systems Engineer, *Texas Instruments*, Pittsburgh, PA Jun 2020 - May 2023

- Developed firmware for ARM microcontrollers used in industrial sensors and monitoring equipment.
- Worked with hardware and applications teams to deliver reliable software that met safety and quality standards.
- Improved real-time performance and reduced power use by optimizing the RTOS, interrupts, and data transfers.
- Helped train junior engineers on embedded coding practices, driver design, and debugging tools such as JTAG and logic analyzers.

Software Engineer I, *Lockheed Martin*, Pittsburgh, PA Sep 2018 - Jun 2020

- Assisted in developing embedded C firmware for avionics test hardware used in internal R&D programs.
- Wrote scripts in Python to automate sensor data collection and reduce manual testing time.
- Helped troubleshoot communication issues involving UART, SPI, and I2C interfaces.
- Updated engineering documentation and test logs to improve team handoff and onboarding.

Software Engineering Intern, *Intel Corporation*, Pittsburgh, PA May 2018 - Sep 2018

- Helped develop and debug embedded software used in FPGA-based test systems.
- Wrote C and Python tools to automate firmware testing and improve nightly regression runs.
- Assisted in fixing timing-related software issues by analyzing logs, reviewing code paths, and testing different configurations.
- Built small SystemVerilog tests to confirm expected software-to-hardware interactions.
- Documented bugs, test results, and fixes in JIRA to support the team's weekly review cycles.

EDUCATION

BSCE, *Carnegie Mellon University*, College of Engineering May 2018

SKILLS

- **Stack:** C, C++, Python, Verilog/VHDL, SystemVerilog, Assembly (ARM, x86, RISC-V), Java, Bash/Shell Scripting, MATLAB, SQL
- **Embedded Systems:** ARM Cortex-M/A Series, RISC-V Processors, FreeRTOS, Zephyr RTOS, Bare-metal Programming, Device Drivers, Interrupt Handling, DMA, Bootloaders (U-Boot), I2C/SPI/UART Communication